The Course
"C.5-1. Philosophical Theory of Thought and Methodology"

General:

This course provides a propaedeutic and philosophical introduction to the foundations of human knowledge, reasoning and scientific investigation. The course is structured around three main pillars: ontology (the theory of reality, which focuses on "being" and "that which is", transcendental concepts and fundamental laws of being), harmology (the theory of order and comparison, which examines the structure of analogies, summative induction, oppositions and methodical analysis), and logic and methodology (the formal theory of thought concerning concepts, judgements and syllogisms, culminating in scientific methodologies such as phenomenology, formalism, the axiomatic-deductive method and the reductive method). Together, these pillars provide a methodological foundation for making ordered reality intelligible and critically analyzing disciplinary scientific assumptions

1: Ontology – The Theory of Reality and Its Foundations

The course begins with ontology, or the theory of reality, which constitutes the essential core of philosophy. Philosophy is not understood here as a superficial hobby or an ideology, but as a testable system of insights into reality and the foundational investigation of the specialized sciences. Whereas specialized sciences investigate specific fields, ontology analyses their presuppositions and conditions of possibility ("backward dialectics").

Central to ontology is the distinction between "being" (reality as a whole) and "that which is" (any concrete or mental phenomenon). Within classical conceptual theory, a fundamental distinction is made between existentia (actual existence or the question of whether something exists) and essentia (the mode of being / essential form or the question of what something is). Every entity exhibits six transcendental properties: it is a being (ens), a thing existing in itself (res), distinguishable from others (aliquid), possesses an essential form (forma), constitutes an inner unity (unum), is knowable to the mind (verum), and is capable of being valued (bonum).

Ordered reality obeys strict laws of being that form the foundation of all logical reasoning:

1. The law of identity: *What (is) so, is (so).

2. The law of non-contradiction (inconsistency):

Something cannot simultaneously be so and not be so.

1. The law of the excluded middle: Something is so or is not so; there is no third possibility.

2. The principle of sufficient reason: Everything has a necessary or sufficient reason, which C.S. Peirce develops as abduction or an explanatory hypothesis.

Ontology also addresses modalities (physical modalities such as necessity, possibility and contingency, as well as ethical modalities such as obligation and permission), and intentional ontology, in which human consciousness, through the cogito (Augustine, Descartes, Kant, Husserl), is directed towards reality as an object of knowing, feeling and willing.

2: Harmology – The Comparative Theory of Order and Organisation

Harmology deals with the ordered structure of reality and is based on Thomas Aquinas's maxim: "Sapientis est ordinare" (it is the task of the wise to arrange things). The core of ordering is the theory of analogy, or the recognition of partial identities between different data through the comparative method (a comparative approach).

Within harmology, various forms of comparison and ordering are distinguished:

- Tropological comparison: Figurative forms of language in which partial identities are preserved, such as metaphor (a relation of similarity), metonymy (a relation of association) and synecdoche (a part-whole relation).
- Summative induction (totalization): Listing and combining all individual elements of a verified collection or system into a whole (inventory).
- This contrasts with ampliative induction, which generalizes from verified samples to cases that have not been investigated. The course analyses the psychology of summation through mantic, intuitive (Poincaré), generative and childhood developmental stages (Jean Piaget).
- Antithetics and Taseology (the theory of opposition and tension): The analysis of pairs of opposites (dyads/triads) and dynamic tension between poles in nature, psychology and culture.
- Methodical ordering and experimentalism: The application of rules of exclusion and tables for causal analysis, as formulated by Francis Bacon (tables of presence, absence and degrees) and John Stuart Mill (the method of concomitant variations). This culminates in John Dewey's experimentalism, in which an idea serves as an instrumental lemma (working hypothesis) to systematically transform a problematic situation.

3: Formal Logic – Concepts, Judgements and Reasoning

Formal logic is the science of the rules of thought that avoid contradiction and ensure consistent processes of reasoning. It covers three successive mental operations:

1. Theory of Concepts (Conceptus):

A concept or idea is the simple mental representation of an entity. Every concept has two dimensions: conceptual content (comprehensio, the totality of characteristic properties) and conceptual extension (extensio, the set of individuals to which the concept applies). Content and extension are inversely proportional to each other. In addition to universal concepts, the course addresses idiographic or individualological conceptual theory, which investigates the singular and unique (as developed by the School of Coimbra and through convergent induction).

2. Theory of Judgement (Judicium):

Judgement is the mental operation in which two concepts (subject and predicate) are connected or separated. In the sense of Bernard Bolzano, logic deals with "propositions in themselves", independently of their psychological expression.

3. Theory of Reasoning (Syllogistics):

A syllogism necessarily derives a conclusion from two premises. C.S. Peirce divides types of reasoning into three fundamental forms:

Deduction: Combining a rule and an application leads to a necessary result (analytical).

Induction: Combining an application and a result leads to a general rule (synthetic).

Abduction: Combining a result and a rule leads to a probable hypothesis or explanation.

4: Methodology and Epistemology of the Sciences

Methodology (applied logic) deals with the purposeful application of logical laws to specific domains of knowledge. A specialized science is defined as a systematic, intersubjective and secularly organized body of knowledge with a specific material and formal object.

The course distinguishes four major scientific methodologies:

1. The Phenomenological Method (Brentano, Husserl):

This focuses on the direct, eidetic intuition of the essence of phenomena in consciousness, temporarily suspending prejudices and external mental existence (epochè).

2. Formalism and the Calculus:

The reduction of mental operations to the mechanical combination of graphic, meaningless symbols according to formalised syntactic rules (as in arithmetic, logistic systems and computer operations).

3. The Axiomatic-Deductive Method (Hilbert, Cavaillès, Lakatos):

It starts from unproven foundational statements (axioms) and rules of inference in order to prove, through progressive or regressive steps, an uninterrupted chain of logically necessary propositions.

4. The Reductive Method (Claude Bernard, A.D. de Groot):

The classical empirical-scientific cycle for the explanatory sciences. It proceeds through five successive phases:

1) observation of facts,
2) formulation of an explanatory hypothesis (abduction),
3) deduction of testable predictions,
4) empirical testing (verification and Popperian falsification), and
(5) evaluation of the result.